Amendments to the Claims

Please replace all prior versions and listings of claims with the following listing of claims.

1. (**Currently Amended**) A detection assembly to ~~for~~ capacitively detect~~ing~~ an object on a support structure, comprising:

at least one electrode being arranged adjacent said support structure;

at least one cable having a first conductor and a second conductor, said first conductor having a first end connected to said at least one electrode;

a first AC source connected to a second end of the first conductor;

a controller structured to control said first AC source to provide a ~~predetermined~~ first AC voltage with a first amplitude and a first phase via said first conductor to said at least one electrode to ~~for~~ capacitively detect~~ing~~ said object on said support structure; [[and]]

a second AC source connected to said second conductor, wherein said controller is configured to control ~~controls~~ said second AC source to provide a ~~predetermined~~ second AC voltage to said second conductor, said second AC voltage having a second amplitude and a second phase, which are substantially equal to said first amplitude and said first phase, respectively; and

a DC source, wherein the DC source is in series with said first AC source to provide a DC voltage to said at least one electrode to provide a clamping force on said object.

2. (**Cancelled**)

3. (**Currently Amended**) A detection assembly according to claim 1, wherein said object is one of a wafer or ~~and~~ a reticle.

4. (**Original**) A detection assembly according to claim 1, wherein said first conductor is at least partially enclosed by said second conductor.

5. (**Cancelled**)

6. (**Currently Amended**) A detection assembly according to claim 1, wherein said second AC voltage source is controlled, in use, by the first AC voltage source such that the first AC voltage source multiplies the second AC voltage by unity.

7. (**Currently Amended**) A lithographic apparatus, comprising:

an illumination system constructed to provide a beam of radiation; and

a detection assembly configured to ~~for~~ capacitively detect~~ing~~ an object on a support structure, said detection assembly including:

at least one electrode being arranged adjacent said support structure;

at least one cable having a first conductor and a second conductor, said first conductor having a first end connected to said at least one electrode;

a first AC source connected to a second end of the first conductor;

a controller structured to control said first AC source to provide a ~~predetermined~~ first AC voltage with a first amplitude and a first phase via said first conductor to said at least one electrode to ~~for~~ capacitively detect~~ing~~ said object on said support structure; [[and]]

a second AC source connected to said second conductor, wherein said controller is configured to control ~~controls~~ said second AC source to provide

a ~~predetermined~~ second AC voltage to said second conductor, said second AC voltage having a second amplitude and a second phase, which are substantially equal to said first amplitude and said first phase, respectively; and

an actuator constructed to move said support structure, said actuator being connected to said controller, said controller being structured to determine a clamping force on said object and to provide said actuator with a maximum value for the acceleration on said object based on the determined clamping force.

8. (**Currently Amended**) A lithographic apparatus according to claim 7, ~~further comprising:~~

~~an actuator constructed to move said support structure, said actuator being connected to said controller,~~ wherein said controller is ~~being~~ structured to control said actuator to move said support structure when a clamping force is above a certain ~~predetermined~~ value.

9. (**Cancelled**)

10. (**Currently Amended**) A method for capacitively detecting an object on a support structure comprising:

controlling a DC source to provide a ~~predetermined~~ DC voltage to at least one electrode to provide a clamping force on an object;

controlling an AC source to provide a ~~predetermined~~ first AC voltage with a first amplitude and a first phase via a first conductor to the at least one electrode to ~~for~~ capacitively detect~~ing~~ the object; [[and]]

controlling a second AC source to provide a ~~predetermined~~ second AC voltage to a second conductor, the second AC voltage having a second

amplitude and a second phase, which are substantially equal to the first amplitude and first phase, respectively;

determining the clamping force of the support structure on the object by determining the difference in capacitance between the support structure with the object present on the support structure and the support structure without the object present on the support structure;

deriving from the clamping force a maximum acceleration of the support structure and the object during a movement which causes movement of the support structure relative to the object; and

moving the support structure and the object, wherein an acceleration of the support structure and the object is less than the maximum acceleration.

11. (**Currently Amended**) A method according to claim 10, further comprising:

determining ~~at least one of~~ a first capacitance of the support structure with the object present on the support structure, or ~~and~~ a second capacitance of the support structure without the object present on the support structure, or both the first capacitance and second capacitance; and

storing ~~at least one of~~ the determined first capacitance and/or ~~the~~ determined second capacitance in a memory.

12. (**Currently Amended**) A method according to claim 10, further comprising:

determining the clamping force of the support structure on the object by determining the difference in capacitance between the support structure with the object present on the support structure and the support structure without the object present on the support structure;

comparing the clamping force to a ~~predetermined~~ minimum clamping force suitable to hold the object on the support structure during movement of the support structure; and

moving the support structure and the object together when the determined clamping force is more than or equal to the minimum clamping force unless the determined clamping force is less than the minimum clamping force.

13. (**Cancelled**)

14. (**Cancelled**)

15. (**Currently Amended**) A computer-readable medium encoded with a program, said program comprising instructions to perform a method, the method comprising:

controlling a DC source to provide a ~~predetermined~~ DC voltage to at least one electrode to provide a clamping force on an object;

controlling an AC source to provide a ~~predetermined~~ first AC voltage with a first amplitude and a first phase via a first conductor to the at least one electrode to ~~for~~ capacitively detect~~ing~~ the object, wherein said AC source is in series with said DC source; and

controlling a second AC source to provide a ~~predetermined~~ second AC voltage to a second conductor, the second AC voltage having a second amplitude and a second phase, which are substantially equal to the first amplitude and first phase, respectively.

16. (**Canceled**)

17. (**Currently Amended**) A method for capacitively detecting an object on a support structure comprising:

providing a ~~predetermined~~ DC voltage to at least one electrode to provide a clamping force on an object;

providing a ~~predetermined~~ first AC voltage with a first amplitude and a first phase via a first conductor to the at least one electrode to ~~for~~ capacitively detect~~ing~~ the object; [[and]]

providing a ~~predetermined~~ second AC voltage to a second conductor, the second AC voltage having a second amplitude and a second phase, which are substantially equal to the first amplitude and first phase, respectively;

determining the clamping force of the support structure on the object by determining the difference in capacitance between the support structure with the object present on the support structure and the support structure without the object present on the support structure;

comparing the clamping force to a minimum clamping force suitable to hold the object on the support structure during movement of the support structure; and

moving the support structure and the object together, when the determined clamping force is more than or equal to the minimum clamping force unless the determined clamping force is less than the minimum clamping force.

18. (**New**) A lithographic apparatus according to claim 7, wherein said first conductor is connected to a DC source that is in series with said first AC source to provide a DC voltage to said at least one electrode to provide a clamping force on said object.

19. (**New**) A lithographic apparatus according to claim 7, wherein said first conductor is at least partially enclosed by said second conductor.

20. (**New**) A computer readable medium according to claim 15, wherein the method further comprises:

determining a first capacitance of a support structure with the object present on a support structure, or a second capacitance of the support structure without the object present on the support structure, or both the first and second capacitance; and

storing the determined first capacitance and/or determined second capacitance in a memory.

21. (**New**) A computer readable medium according to claim 15, wherein the method further comprises:

determining the clamping force of a support structure on the object by determining the difference in capacitance between the support structure with the object present on the support structure and the support structure without the object present on the support structure;

comparing the clamping force to a minimum clamping force suitable to hold the object on the support structure during movement of the support structure; and

instructing to move the support structure and the object together when the determined clamping force is more than or equal to the minimum clamping force unless the determined clamping force is less than the minimum clamping force.

22. (**New**) A computer readable medium according to claim 15, wherein the method further comprises:

determining the clamping force of a support structure on the object by determining the difference in capacitance between the support structure with the object present on the support structure and the support structure without the object present on the support structure;

deriving from the clamping force a maximum acceleration of the support structure and the object during a movement which causes movement of the support structure relative to the object; and

instructing to move the support structure and the object, wherein an acceleration of the support structure and the object is less than the maximum acceleration.